

ABSTRACT

A new transparent conductive laminated thin film is provided which not only has a high transmittance of light in the visible region and a low surface resistance ($6-500 \Omega / \square$), but also combines high transmittances of light in the visible region of short wavelengths of 380-400 nm and the near-ultraviolet region of shorter wavelengths of 300-380 nm. The transparent conductive film has a lamination structure that the surfaces of the metallic thin film 11 are coated with the transparent oxide thin films 10 and 12. Each of the transparent oxide thin film 10 and 12 is an amorphous oxide thin film chiefly composed of gallium, indium, and oxygen or composed of gallium and oxygen, and the gallium content of each transparent oxide thin film ranges from 35 at. % to 100 at. % with respect to all metallic atoms.